

Dmitri Priven

Algonquin College in Ottawa

# Language teacher education in blended synchronous learning environments (BSLE). A view from the classroom

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## ABSTRACT

This paper describes a blended approach to English as a Second Language teacher training that integrates live face-to-face and virtual students in the same physical/virtual classroom with the help of a Blended Synchronous Learning Environment (BSLE). The technical characteristics of this environment are presented, and its affordances and challenges are discussed in light of current research on blended instruction in higher education.

**Key words:** blended instructional environments, technological challenges, teacher training purposes, professional development

## INTRODUCTION

Since the emergence of asynchronous online learning applications such as Blackboard Learn in the early 2000s, institutions of higher learning have been engaged in finding practical solutions for online instruction. In 2002, the special issue of *Language Learning and Technology* on Technology and Teacher Education stated that because nowadays technologies become “much more complex and powerful” (Zhao & Tella, 2002, p. 3), the teacher-training process has become more complex. While the complexity of the learning process may have increased, an obvious advantage of using online applications in education

is its increased accessibility. “Anywhere, Anytime, Anyway” has become a slogan that many institutions of higher learning have embraced in their bid to become accessible to population groups that traditionally may not have had access to higher education, or to conform to today’s increasing pace of life (Iorio et al., 2006). Among other affordances of online learning are international and intercultural student collaboration (Commander et al., 2016) and opportunities for self-regulated learning positively correlated with student achievement (Broadbent & Poon, 2015).

Depending on the amount and the type of social interaction, the environments in which online learning in post-secondary institutions takes place can be divided into asynchronous and synchronous. Asynchronous environments such as discussion boards, chat, wikis, and email are often part of hybrid courses, where some of the learning takes place in the physical class and some online. Synchronous learning environments include multimodal web-conferencing environments (MWCE) and 3D Virtual Worlds (VW) (Kozlova & Priven, 2015). While asynchronous learning environments seems to be widely used in hybrid educational programs, some research points out that real-time social presence adds value to online education (Bicen et al., 2014; Hunt, 2015; Snart, 2010; Yamada, 2009). The social nature of learning has been the focus of much research in pedagogy throughout the 20<sup>th</sup> century. It is a major tenet of the *social constructivist* approach to education, an approach that envisions learning as an exploratory activity, in which learners build knowledge by linking new information or experiences to the ones they had previously internalized, and “a community activity facilitated by shared inquiry” (Alesandrini & Larson, 2002 p. 138). Hence, it is the need for immediate, real-time communication between teacher-trainees that can be afforded in a face-to-face learning situation that we were trying to emulate in the virtual world in the proposed teaching modality.

In addition to the social aspect of teacher education in online environments, teacher-trainees’ attitudes to online learning can also be contextualized within a larger framework of their attitudes to learning about educational technologies, and specifically about Computer-Assisted Language Learning (CALL). While the attitudes to learning about technology in the classroom and the uptake of the technological skills on the part of teacher trainees seem to be positive, research claims that that does not necessarily translate into a high level of comfort in integrating technology into day-to-day teaching (Hegelheimer et al., 2004; Peters, 2006; Kessler, 2007). This disconnect seems

to be due to a lack of consistent and comprehensive teacher training program for CALL (Kessler, 2006; Wang et al., 2010), as well as to a lack of a situated learning experience in teaching with CALL (McNeil, 2013) on the part of teacher trainees, an experience that would reflect the cognitive and logistical demands of setting up real CALL tasks for language learners. The proposed teaching modality aims to provide a meaningful “testing ground” for new teachers to acquire and master online teaching skills. They start out as novice users of an online teaching platform, then become proficient users through sustained practice, and then take over as practice teachers, thus participating in what Lave and Wenger (1991) refer to as *legitimate peripheral participation*. This approach to learning is part of their *communities of practice*, a framework where learners move through cycles of skills development through increasing complexity of their roles as learners, from apprentices to emerging practitioners.

This paper presents an overview of an innovative approach to English as a Second Language (ESL) teacher education that attempts to blend features of face-to-face and online synchronous instruction in the same physical/virtual space, referred here to as a Blended Synchronous Learning Environment (BSLE). In general terms, blended instructional practices in higher education integrate F2F and online instruction (Drysdale et al., 2013). In practical terms, blending can involve integration of synchronous and asynchronous instructional tools, learning management systems (LMS), and the social media. Brown (2016) presents a thorough review of factors influencing blended instructional practices in higher education, which include teacher and student attitudes to online learning, teacher cognition, institutional barriers, and technological preparedness. BSLE specifically are relatively new in the field of higher education; in fact, the only research that evaluates their application in higher education comes from the fields of engineering and computer science (Kannana & Narayanan, 2015; Szeto & Cheng, 2014). There are no studies to date that address ESL teacher training in such learning environments.

Apart from the gap in the literature, there are several other reasons why we decided to pilot the proposed teaching modality in the Teachers of English as a Second/Foreign Language program at Algonquin College in Ottawa, Canada. The first is increased flexibility and accessibility: the classes can be attended on-campus or online, which allows students in remote areas to access learning in real time, and/or reduce commuting time. The second reason is creation of a common physical-virtual learning community, which has a po-

tential for better participant engagement and social presence than in has been documented in purely online programs (Snart, 2010). The third is to provide opportunities for international and intercultural collaboration among pre-service teachers. The fourth is to create a legitimate peripheral participation framework to increase the future teachers' facility with online teaching tools. In order to achieve these pedagogical objectives, when designing the proposed teaching modality, our ultimate goal was to provide the same immersive classroom experience to both groups of student: those attending physical classes, and those attending from home. That is to say, technologically we were aiming to minimize the disruption for the students attending F2F caused by use of AV technology to accommodate the remote students, and to provide an immersive classroom experience ("being-there") for online students.

The findings – both affordances and challenges – discussed in this short paper are based on preliminary data obtained through face-to-face communication with our faculty and teacher trainees during the pilot stage of implementation of the proposed blended synchronous teaching modality. As we continue to offer classes in this modality, we plan to conduct more thorough quantitative and qualitative research to better measure its effects.

## TEACHER TRAINING PROGRAM AT ALGONQUIN COLLEGE

The Teachers of English as a Second/Foreign Language (TESFL) program at Algonquin College is a graduate certificate program that prepares graduates to teach English as a Second/Foreign Language to adult ESL learners in Canada and internationally. It belongs to the category of Ontario College Graduate Certificate programs, which is a professional credential offered in various areas that can be taken by university graduates to apply their academic skills to a professional area and gain employment. TESFL is a one-year program open to graduates of any Bachelor's program, and recognized by both provincial and national teacher accreditation bodies. The program courses are devoted to basic language teaching methodologies, linguistics and language acquisition theories, teaching the four skills, grammar, vocabulary, and pronunciation, as well as basics of language assessment, curriculum design, and technological applications.

## REQUIRED EQUIPMENT

To deliver classes in our BSLE, we are currently using a dedicated college classroom that includes the following AV equipment (Fig. 1). The ceiling-mounted tracking camera and two paired microphones was a customized solution provided by a private AV company. The rest of the equipment is part of the standard AV equipment in e-classrooms at Algonquin College.

| TECHNOLOGY IN CLASS   | PURPOSE   |
|---|---|
| <b>Ceiling-mounted tracking High Definition camera</b>                | To provide a consistent video feed of the instructor and the whiteboard for online students. The camera follows the instructor within a certain range. (If the web-conferencing platform supports two external cameras simultaneously, an additional camera can be installed for the class view). |
| <b>A set of two paired microphones</b>                                | A lapel microphone for the instructor and a class microphone to be passed around among the students. Both microphones are wirelessly connected to the microphone receiver/mixer, which is connected to the computer via microphone input.   |
| <b>Slide clicker/ Remote mouse</b>                                    | To move the slides remotely.  |
| <b>Digital projector</b>  | To project instructor's computer screen onto the class screen.  |
| <b>Integrated class speakers</b>                                      | To share computer audio with F2F class; to entertain questions from virtual students.   |
| <b>Teacher's PC with high-speed internet access</b>                   | To connect to the web-conferencing application and to share media.  |
| <b>Access to a web-conferencing application</b>                       | e.g., Blackboard Collaborate (Ultra), Adobe Connect, Zoom, Big Blue Button, to allow remote participants to attend live classes online  |
| TECHNOLOGY FOR ONLINE STUDENTS  | PURPOSE   |
| <b>Desktop or laptop PC or mobile device with high-speed internet</b> | To join the class online through a web-conferencing application   |
| <b>Webcam and headset</b>   | To participate in class remotely though voice, video, and chat  |
| <b>Access to a web-conferencing application</b>                       | e.g., Blackboard Collaborate (Ultra), Adobe Connect, Zoom, Big Blue Button, to attend live classes online.  |

Fig 1. Audiovisual equipment used in the TESFL program at Algonquin College

## TEACHING MODALITY IN THE TESFL PROGRAM: INTEGRATING PHYSICAL AND VIRTUAL STUDENTS

### 1. Lecture Mode

Many TESFL classes include standard teacher-centered lectures accompanied by use of physical whiteboard, or PowerPoint/Prezi slides. To provide quality audio for the students logging in from home, the instructor wears a lapel microphone and stays within the range of the tracking camera. The camera is calibrated in such a way that it captures the entire physical whiteboard, so if the instructor needs to use it, it is visible in HD to the student attending from home (Fig. 2). Alternatively, the instructor can use the interactive whiteboard within the web-conferencing application. In that case, he/she would have to be in front of the computer and typing the notes into it (Fig. 3), which may be less engaging for the F2F students than using the class whiteboard or blackboard. If there is a question from the audience, they have to use the class microphone, which is passed from student to student so the entire classroom interaction is broadcast live in high quality audio. The microphone mixer automatically switches between the two microphones, depending on the audio source engaged.

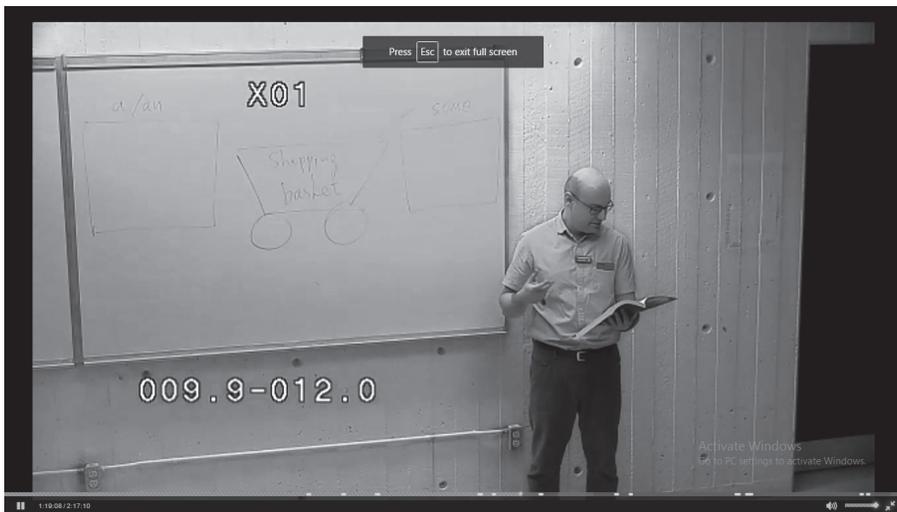


Fig. 2. Video capture of class lecture and use of whiteboard on Zoom



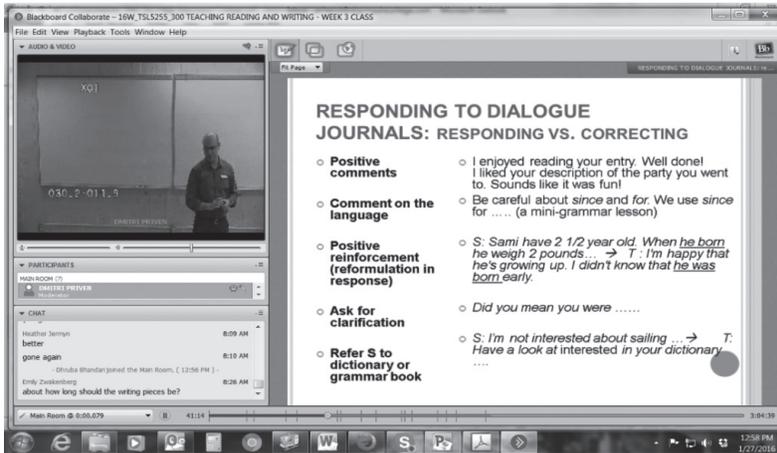


Fig. 5. Screensharing mode and chat on Blackboard Collaborate

In addition to sharing .doc, .pdf, .ppt, .xls files, it is also possible to share audio files, websites and embedded training videos. The web-conferencing application we are currently using – Zoom – has the capability to broadcast third-party video and audio through an audio optimization feature, so both the F2F and virtual students receive the same quality soundtrack (Fig. 6). Live class sessions, including all the media shared, can be recorded either on the cloud that the web-conferencing platform provides or on the local computer, to provide opportunities for revision.

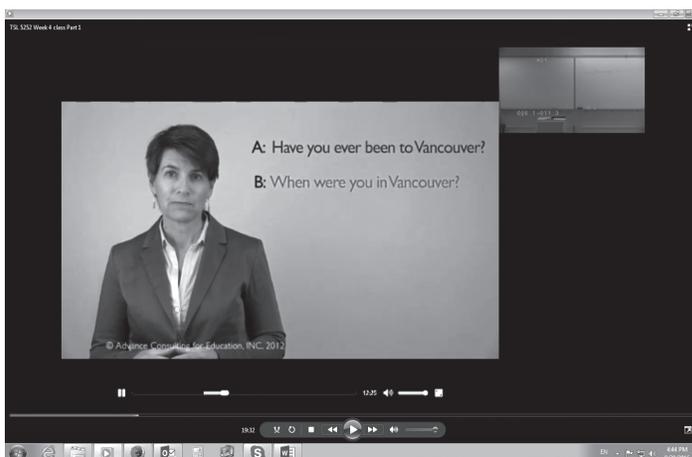


Fig. 6. Running a web-based video on Zoom

## 2. Group discussion mode

In addition to running classes in the lecture mode, the web-conferencing systems we have used (Blackboard Collaborate, Zoom) allow the students to engage in small group and pair work. While the F2F students work on discussion questions in small groups, their virtual colleagues can be grouped together by the instructor through a feature called “Breakout Rooms”. They can discuss questions with one another through voice and chat, type into the shared interactive whiteboard to record their findings, and present their findings to the class. Essentially, they are able to use the same group discussion and presentation tools as the F2F students.

### AFFORDANCES

One of the most obvious advantages of the proposed teaching modality for the teacher trainees is their ability to attend classes remotely but in a fairly immersive environment. While there exist a multitude of online ESL teacher training programs in North America and worldwide, many of them use the old distance education modality, where the communication between the new teachers is through chat or email at best, and there is perceived disconnect between learners and a lack of “human touch” and an intercultural dialogue (Lawrence, 2013). The proposed modality allows teacher trainees who attend virtually to communicate in real time with their F2F vis-à-vis through voice and chat, which, according to our preliminary informal surveys, adds to the usability and human connection that many teacher trainees seeks in a training program.

Another affordance of the proposed teaching modality is its ability to provide the same learning resources to both F2F and virtual students and to cater to both groups without neglecting or disadvantaging one or the other. For instance, both F2F and virtual students are able to communicate with their colleagues in small groups at the same time. Through the Breakout Room function, the virtual students can speak to one another, share files with one another, and use a shared writing pad to document the results of their group activity. This is exactly what is expected of the F2f students in group discussions. In addition, while the instructor shares his/her computer screen with

the F2F class through a digital projector to demonstrate teaching materials or share classroom videos, the virtual students have access to the same media through their home computer using the screenshare feature.

An additional benefit of introducing this online environment in a teacher training program is its value in the world of employment. There is an ever-increasing number of language schools that offer online classes and tutorials to their clients, and many of them use open-source or proprietary web-conferencing platforms (beyond Skype). Thus, facility with web-conferencing platforms and knowing how to use them for teaching purposes has become an essential teaching skill. Our teacher trainees seem to appreciate the opportunity to get some first-hand experience as users of these web-conferencing platforms before applying them to a real teaching situation. Indeed, professional development and hands-on experience have been cited as some of the positive factors in adopting blended instructional environments in higher education (Johnson et al., 2012; Myers et al., 2011; Rienties et al., 2013).

## CHALLENGES

The proposed blended teaching modality has a number of challenges as well. A very serious one is the increased cognitive load for the instructor. Teaching online may require a different skill set than that needed to teach F2F; teachers often report an increased cognitive burden related to managing the technology and the subject matter at the same time (Whyte, 2011). In addition to having to manage a F2F classroom – which in and of itself may be a daunting task – a teacher trainer needs to be in control of two distinct groups of trainees, one attending F2F and the other online. For instance, in the lecture mode, the trainer needs to make sure that he/she is able to address questions both from the F2F students and those online, while in the group discussion mode he/she should be able to monitor group work and sometimes intervene both F2F and online. To sum up, in our opinion, an instructor teaching in a BSLE should be able to make the F2F and virtual students truly equal participants in all class activities, even if there may be 25 F2F students and only 5 attending virtually. It is often the shortcomings in an instructor's online teaching skills that contribute to concerns about quality of instruction in blended instructional environments (Jarrahi, 2010; Salinas, 2008).

This raises another potential challenge of this teaching modality: the instructor's technical skills. To ensure a smooth integration of the two distinct cohorts, an instructor needs to have a high level of familiarity and facility with not only the web-conferencing platform used but also with Windows/OS-related applications, such as sound sources, plugins, video players, chat, and various hardware such as paired wireless microphones and webcams. There needs to be a certain level of automaticity in the use of these tools on the part of the instructor to ensure a smooth transition between lesson stages with the help of the technology. Research points out that both technological anxiety (Johnson et al., 2012) and aversion to change (Thornton, 2010) can be factors that prevent instructors from adopting advanced technology in the classroom even when it is available.

Similarly, students participating in classes remotely through a web-conferencing application need to be experienced in using this environment and its tools. Technological challenges have also been documented as preventing some students from exploring online educational programs (Wach et al., 2011). Finally, even in this day and age of high-speed internet and relatively ubiquitous (at least in the developed world) personal laptops, tablets, and mobile devices, both hardware and software can malfunction, which may cause class interruptions and ultimately reflect on the quality of instruction. Indeed, concerns about the reliability of technology are another deterrent from adopting blended instructional practices (Reid, 2014; Schoonenboom, 2014).

## CONCLUSIONS AND DIRECTIONS FOR FURTHER RESEARCH

While the findings of this classroom research are at this point preliminary and largely impressionistic, it is evident that the proposed approach has garnered general approval from both our students and faculty. Over the past two years, we have seen the number of teacher trainees participating in our classes virtually steadily increase as the year progressed and as their facility with the web-conferencing applications improved. We have also seen more and more faculty adopt this teaching modality in our program and become more proficient with the technology it makes use of. We have found that more advanced and user-friendly web-conferencing applications, like the browser-based Zoom as opposed to the outdated Java-based Blackboard Collaborate, increase the

usability of the blended instructional environments and enhance user experience, both for students and faculty, which is an important factor in adoption of blended teaching environments (Ahmad et al., 2010; Buchanan et al., 2013; Cheung, Vogel, 2013). In the near future, we plan to launch a full-scale classroom study to measure the effects of using BSLE for teacher training purposes.

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